

Tire manufacturers require reliable code reading solutions throughout all production stages—from receiving raw materials to final assembly. When the lifecycle of a tire spans multiple locations, buildings, cities or countries, tire identification is essential to manage compliance, WIP (work in progress), sorting/routing and quality control.

Read failure can cause slower throughput, production inefficiencies, costly rework, and reputation damage. Cognex vision technology offers tire manufacturers peace of mind:

- Industry-leading read rates
- DataMan® barcode readers have no moving parts providing a lower cost of ownership
- Fewer systems can cover a larger field of view, saving overall installation costs and maintenance
- DS1000 3D laser profiler includes 2D and 3D vision toolsets for additional inspection capabilities
- Image-based readers allow you to “see what the reader sees” to support troubleshooting and continuous improvement efforts
- Cognex products support industrial protocols for easy integration with factory networks and systems

### Tire identification challenges

- Tire orientation and line speeds can vary greatly
- Ideal reader position is difficult to achieve due to varying tire heights and barcode perspectives
- Printed labels are easily damaged from stage to stage
- Physical constraints and government mandates require smaller codes and more data
- Lack of contrast make rubber embossed/pressed alphanumeric DOT codes difficult to read

### DS1100 3D displacement sensor

#### Applications

- Automatic DOT code recognition
- Verify any embossed text or logo on tires

#### Features

- Speeds up to one tire revolution per second
- Full 360 degree scan of the sidewall
- Includes Cognex vision software with OCRMax™ technology



[www.cognex.com/ds1000](http://www.cognex.com/ds1000)

### DataMan 300 high resolution barcode reader series

#### Applications

- Spinning tires
- Green vulcanized tires
- Under belt
- Hanging chains
- Omnidirectional conveyors

#### Features

- Three resolution options:
  - 800x600
  - 1280x1024
  - 1600x1200
- 60 reads per second
- Up to 250 ft/min (1.5 m/s) transport speed
- Customizable to any application

[www.cognex.com/300](http://www.cognex.com/300)



### DataMan 503 high speed/high resolution barcode reader

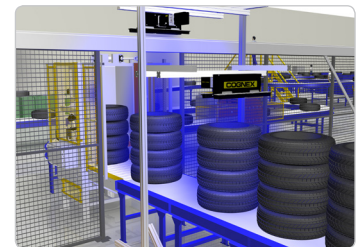
#### Applications

- Tire stacks
- Spinning tires
- High speed sorting
- Large depth of field
- Large field of view

#### Features

- 2048x1088 resolution (2.1 Megapixels)
- Over 120 reads per second
- 600 ft/min (3.3 m/s) transport speed
- 500mm (19.67in) depth of field
- Synchronous multi-camera operation

[www.cognex.com/503](http://www.cognex.com/503)



### Xpand™ technology

#### Features

- Increases reader coverage across the belt, without adding readers or moving parts
- Compatible with the DataMan 300 and DataMan 503

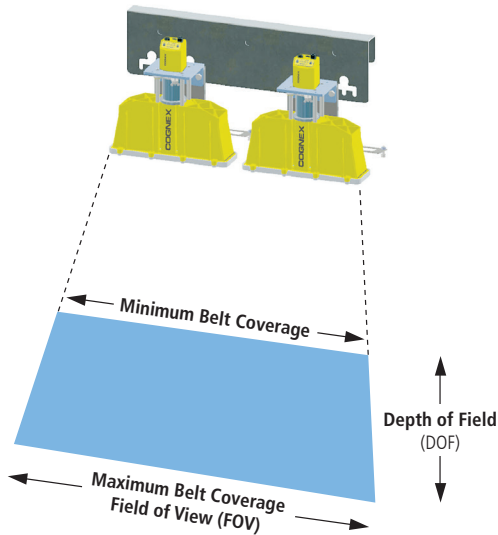
#### Benefits

- Higher read performance
- Increase coverage without adding cameras
- Redundancy achieved with fewer cameras
- Fewer cameras allows faster data processing, increasing throughput

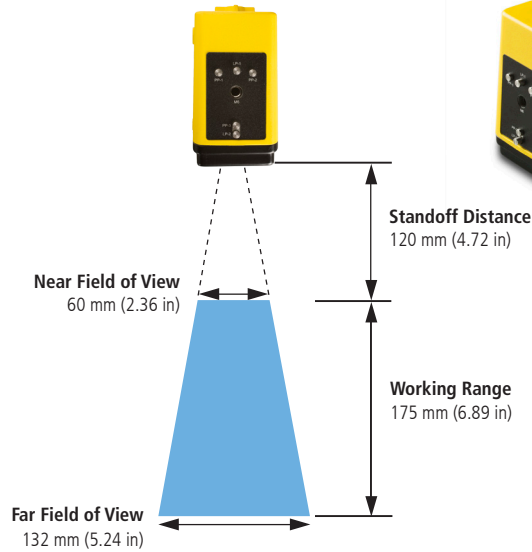


[www.cognex.com/xpand](http://www.cognex.com/xpand)

## DataMan readers with the Xpand™ field-of-view expansion accessory



## DS1100 3D displacement sensor



LASER LIGHT  
AVOID DIRECT EYE EXPOSURE  
CLASS 3R LASER PRODUCT  
Classified per IEC 60825-1:2007  
Complies with FDA performance  
standards for laser products  
except for decorative purposes  
See Laser Notice No. 50, dated  
June 24, 2007

LASER LIGHT  
DO NOT STARE INTO THE  
BEAM OR VIEW  
DIRECTLY WITH OPTICAL  
INSTRUMENTS  
CLASS 2M LASER PRODUCT  
688nm <1mW  
Classified per IEC 60825-1:2007  
Complies with FDA performance standards  
for laser products except for decorative  
purposes See Laser Notice No. 50,  
dated June 24, 2007

## Specifications and part numbers

Part Number	Product	Quantity	Accessory	Maximum Belt Coverage (FOV)	Code Size	Code Orientation	Line Speed	Depth of Field (DOF)
<b>Over/Under Belt and Hanging Chain Applications</b>								
DMR-503QL-2574-113	DataMan 503	1	XPand 25	27.99 in	12 / 10 mil	Omni	600 ft/min	12 in
DMR-303X-1561-T2 / HR	DataMan 303	2	XPand 15	33.68 / 30.11 in	12 / 10 mil	Omni	250 ft/min	12 / 10 in
DMR-303X-1561-T3 / HR	DataMan 303	3	XPand 15	48.42 / 43.7 in	12 / 10 mil	Omni	250 ft/min	12 / 10 in
DMR-303X-1561-T4 / HR	DataMan 303	4	XPand 15	66.37 / 58.85 in	12 / 10 mil	Omni	250 ft/min	12 / 10 in
<b>Spinning Tire Applications</b>								
DMR-302X-4561-120	DataMan 302	1	HPIA	9.84 in	12mil	Omni	250ft/min	12 in
<b>Tire Stack Applications</b>								
DMR-503QL-2574-113	DataMan 503	2	XPand 25	28.15 in	15mil	Omni	90ft/min	50 in

**Single part numbers include:** Preassembled, pre-focused readers. **HPIA** is a High Powered Illumination Accessory. **HR** is a High Resolution option.

Part Number	Product	Quantity	Minimum Character Thickness	Scan Rate	Tire Rotation Speed
<b>Spinning Tire Application: Reading Embossed DOT Codes</b>					
P100-320-000-U (USB Dongle)	DS1100	1-2	.039 in	250Hz to 10KHz	Up to 1 revolution per second
P100-320-000-SL (Software License)					

Companies around the world rely on Cognex vision and ID to optimize quality, drive down costs and control traceability.

Corporate Headquarters One Vision Drive Natick, MA 01760 USA Tel: +1 508 650 3000 Fax: +1 508 650 3344

### Americas

United States, East +1 508 650 3000  
 United States, West +1 650 969 8412  
 United States, South +1 615 844 6158  
 United States, Detroit +1 248 668 5100  
 United States, Chicago +1 630 649 6300  
 Canada +1 905 634 2726  
 Mexico +52 81 5030 7258  
 Central America +52 81 5030 7258  
 South America +1 909 247 0445  
 Brazil +55 47 8804 0140

### Europe

Austria +43 1 23060 3430  
 Belgium +32 2 8080 692  
 France +33 1 4777 1550  
 Germany +49 721 6639 0  
 Hungary +36 1 501 0650  
 Ireland +353 1 825 4420  
 Italy +39 02 6747 1200  
 Netherlands +31 208 080 377  
 Poland +48 71 776 0752  
 Spain +34 93 445 67 78  
 Sweden +46 21 14 55 88

Switzerland +41 71 313 06 05  
 Turkey +90 212 306 3120  
 United Kingdom +44 1327 856 040  
**Asia**  
 China +86 21 5050 9922  
 India +9120 4014 7840  
 Japan +81 3 5977 5400  
 Korea +82 2 539 9047  
 Singapore +65 632 55 700  
 Taiwan +886 3 578 0060

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